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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
Bureau of Entomology and Plant Quarantine

Forest Insect Laboratory
445 U. S. Court House
Portland, Oregon
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To: Project Directors - 1953 Oregon Spruce Budworm Control Project

Mr. John B. Woods, Jr. Oregon State Board of Forestry Salem, Oregon	Mr. A. J. Jaenicke U. S. Forest Service Portland, Oregon
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From: R. L. Furniss, In Charge, Portland Laboratory, by J. M. Whiteside

Subject: Report No. 6 - Technical Phases of the 1953 Oregon Spruce Budworm Control Project.

As far as the 1953 Spruce Budworm Control Project is concerned "The Weather" is still the all important subject. The days and nights remain cool but have begun to warm slightly. However, the daily temperatures are apparently not much above the threshold of development for either the budworm or tree growth. As a result, the changes in development, necessary before we can start spraying operations, are still painfully slow.

A summary of conditions on the control units during the period June 14-20 is as follows:

I. Spruce Budworm Larval Development

District I - Santiam Unit: Personnel to follow the technical phases of the 1953 project on this unit were available and assigned on June 15. Mr. Lowell Dobyns (BEPQ) is the Biologist and Messrs. Lloyd Soule and Burl Staley (F.S.) are the Insect Checkers. Along the North Santiam highway at 3400 feet there is still a lot of snow under the trees. In trying to get to Carpenter Mt. by the Wolf Meadow road we got the Jeep stuck in the snow on June 18. Along this road the snow is 10 or more

feet deep in many places. A collection of budworm larvae was made on June 18 at 3400 feet in the most advanced portions of Unit 1 and out of 50 larvae only about 5 were in the 3rd instar and 45 in the 2nd instar. Observations on bud development in the lowest portions of Units 4 and 5 showed that the buds were just starting to swell and a few have burst with new growth about 1/2" long. More detailed observations will be made during the coming week as the men become familiar with the boundaries of the units.

District II - Dale and Starkey Units: With "two days of good weather last week," development of both the budworm and tree growth was slow but sure. On the Dale Unit the new growth of white fir is more advanced than that of Douglas fir in the lowest portions of the unit. Along the North Fork John Day River canyon bottom, new growth is quite spotty; some trees having the bud caps still on while others have new growth over 1 inch long. Buds are swollen up to 5000 feet but at 5600 feet the buds are still tight. A summary of the most advanced larval development on the Dale Unit is as follows:

Block	Point	Elev.	Date	Instars			
				2nd	3rd	4th	5th
D-4	Spot	3100	6/15	8%	50%	34%	8%
			6/19	4%	36%	60%	0
D-11	CP-2	3400	6/16	0	75%	25%	0
			6/19	0	28%	71%	1%

Additional collecting points have been established but the buds are still too tight and small to start collections. Other points will be set up as soon as all the trails have been explored for possible collection points.

On the Starkey Unit the bud development of white fir is most advanced at elevations of 4300-4900 feet in block S-17 but even here, new growth is quite spotty. In other portions of the unit, some buds have shed their caps up to 5000 feet and at 5600 feet the bud caps and scales are beginning to loosen. At 6000 feet on Chicken Hill, white fir buds are still tight. The most advanced larval development on this unit is as follows:

Block	Point	Elev.	Date	Instars			
				2nd	3rd	4th	5th
S-17	CP-1	4400	6/15	13%	87%	0	0
			6/18	6%	94%	0	0
			6/19	16%	83%	1%	0
S-14	CP-2	3700	6/18	0	96%	4%	0
			6/19	17%	77%	6%	0
S-20	CP-3	4900	6/18	34%	66%	0	0
?	CP-6	4600	6/15	99%	1%	0	0

Collection at other points have not started because bud development has not progressed sufficiently.

District III - Johnson Creek Unit: In the western portions of this unit up to 3600 feet, new growth of both Douglas fir and white fir on western exposures is still spotty but most of it is out 1-2 inches. On north slopes the bud caps have broken on most trees up to 3400 feet but little new growth has appeared. Bud development in the rest of the unit has progressed slowly. Only a small percentage of the trees on the south and east slopes up to 4200 feet have pushed off their bud caps. The canyons on the eastern portion of this unit are quite a ways behind the canyons on the western portion. The following larval development has been recently recorded in this unit:

Block	Point	Elev.	Date	Instars			
				2nd	3rd	4th	5th
BB-1	CP-1	3300	6/19	1%	17%	71%	11%
	CP-2	4000	6/19	51%	49%	0	0
BB-2	Spot	4600	6/19	6%	94%	0	0
BB-3	CP-4	4000	6/19	4%	96%	0	0
BB-4	CP-3	3900	6/19	6%	67%	27%	0
	Spot	4500	6/19	17%	75%	5%	3%
J-2	Spot	2900	6/19	11%	30%	37%	22%
J-4	Spot	3400	6/18	0	28%	68%	4%

As the above records show, the larval development on the Johnson Creek Unit is well ahead of the other units. Spraying operations will start on the Johnson Creek Unit ahead of the other units of the 1953 project.

II. Start of Spraying Operations

Because of the development of the budworm larvae and tree growth did not progress as rapidly as expected, it was necessary to change the starting date for spraying operations indicated in our Report No. 5.

The following starting dates have been verbally given:

<u>Unit</u>	<u>Start of Control Operations</u>
Johnson Creek	June 29
Dale	June 30
Starkey	July 1
Santiam	July 6 (?)

The starting date for the Santiam Unit is still uncertain and the July 6 date is only a guess for planning purposes. On the other units some spraying will start on the dates indicated but the acreage to be sprayed on the first day will be small. There will probably be a delay until more area is ready for spraying. We regret that we cannot be more specific at this time as to the Santiam Unit but we will keep checking to find the portions of earliest development.

We hope for better news next week.

J. M. Whiteside

cc: Dr. J. A. Beal
E. L. Kolbe
C. G. Jorgensen
Supervisor Willamette N.F. (2)
Supervisor Whitman N.F. (2)
Supervisor Umatilla N.F. (1)
V. Poole, B. Young Jr., L. Dobyns
B. L. Orell

L. M. Compton, J. Gartz
D. Mc Comb
C.A.A. Regional Office
C.A.A. Agents D.D. Allen,
R. A. Byrd, N. V. Hendy, Jr.
T. J. Smith, A. F. Beyer,
R. L. Kagy
W. K. Coulter
C. R. Patrie
P. Clements